The Open Court.

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FORMER CONTRIBUTIONS TO "THE OPEN COURT."

PROF. E. D. COPE.

In Number 23 Professor E. D. Cope treats of "Evolution and Idealism," and finds in the evidence of evolution the refutation of the doctrine of idealism. He concedes that much of what we consider the objective world is unreal and has no existence, except, as we perceive it, like the snakes, for instance, to the victim of *delirium tremens;* and he agrees that "the properties of matter" owe much of their character, and even their existence, to our senses, which give matter all its qualities, or, at least, modify and change them according to the number of our senses and their ability to perceive. Yet, for all that, he says: "If a given supposed object be purely a mental state on the part of the subject, a rational cause for the production of that state is wanting."

With great self-confidence, Professor Cope says: "Evolution gives the *coup de grace* to idealism of the consistent type. In the gradual unfolding of organic life it sees the two universal facts, subject and object. It sees them interact and influence each other," and further on he says: "It is equally competent for the materialist to deny the existence of mind as for the idealist to deny the existence of matter. The materialist beholding the imperfection of the senses may pronounce them to be, one by one, incompetent witnesses, and declare them to be illusions. But the fact is, both exist, object and subject, matter and mind."

MORRISON I. SWIFT.

In No. 23 Morrison I. Swift makes a vigorous appeal to the churches that they become actively interested in what is generally known as "The Social Problem," and that they take the lead in Christianizing the people after the manner practiced by Jesus in Judea and by his disciples, as related in the New Testament. Mr. Swift's language is clear, eloquent, pervaded by an ideal humanitarianism, and is not only respectful to the clergy but even reverent. He thinks the opportunities of the present and the future are in the hands of the churches, and that the clergy may lead the van of social progress instead of trailing along behind the baggage wagons, as they have so long been contented to do. "In this country," he says, "where the church has the allegiance of so large a portion of the people, where it represents a large proportion of the specially organized moral forces of the land, where finally its material resources are almost unlimited and the money power of the country is its friend and supporter, it would be possible for the church to bring about the reform that is needed, with little difficulty, if it desired to do so." Here Mr. Swift is confronted with the important objection that should the church take the lead in the social revolution or even in social reformation so far as "to establish such fair distribution of the products of human industry that superabundance and luxury will not exist," the "money power of the country" would cease to be its "friend and supporter" and the clergy might cease to be a priesthood. He presents the difficulty thus: "It is said by some that the pulpit will not go much beyond those who maintain it. This is to acknowledge that the opinions of the clergy are to-day bought and paid for, just as lawyers are hired and legislators sent to uphold the ideas of their constituency." Notwithstanding this difficulty, Mr. Swift sees "a slumbering lion in the Christian ministry, which will, ere long, awaken and put forth its formidable powers for the poor and the oppressed."

Two other essays by Morrison I. Swift, are contained in Nos. 32 and 44. In the one he speaks of *The Scholar as a Reformer*, and in the other of *The Masses as Reformers*. The scholar has imbibed something of the historic spirit; he perceives, moreover, that the change in human institutions must ever be along the line of the moral and the ideal. Life can not be conceived in its full import, until the individual comprehends himself as the bearer of the rare essence and as containing, in no merely figurative way, the temporal hereafter. It is the mission of the scholar to reveal the larger and encompassing world of his soul, not of the bookish professional scholar but of him who has sought a profound comprehension of the meaning of life in its complexity and breadth. He must guide the masses, he must clear away the mystifying creeds and establish the truth that all men are born to live moral and beautiful and expanding lives in whatever sphere they may labor.

Mr. Swift considers the masses as the raw material for reform. There are rich people who think that general betterment means loss to them. But to dread reform is to misunderstand. Whatever is imperfect in society is injurious to all classes. A reform at one point reaches every point. The essayist sets great hopes on the masses—indeed, hopes too great, which may prove illusions. "Their minds," he concludes, "are more fluid and therefore they are more capable of growth into a surviving harmony with the conditions of life than those whose adaptations were formed earlier and in less enlightened times.... They are to become an infinitely more important factor in the life of the race than ever before."....

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THE PSYCHIC LIFE OF MICRO-ORGANISMS.*

BY A. BINET.

Translated from the "Revue Philosophique" by μκρκ.

PART IV.

II.

NUTRITION.

After studying the organs, let us pass to a study of their functions.

It is not our intention to devote special chapters to irritability, instinct, memory, reasoning, and the powers of volition in Micro-organisms. This would lead to diffuseness of treatment. Our method will be quite different. We shall describe as a whole all the different manifestations of psychical activity attendant upon the actions of Micro-organisms in the exercise of the important functions of their existence. The present chapter will be devoted to psychical phenomena connected with the act of nutrition.

All living matter possesses the power of continually increasing its mass by the inward reception of materials, and of simultaneously decreasing the same through the combustion of its substance with the oxygen of the atmosphere. The first of these processes is called nutrition, and the second, respiration.

We shall first examine the psychical phenomena which precede and determine the act of respiration. These phenomena are often very simple and of little significance. If the Micro-organism lives in the water, which is most frequently the case, the oxygen contained in solution therein passes directly through the cellular cuticle by dialysis and comes in contact with the body of the protoplasm; in which case the process of respiration is solely a chemical phenomenon. But it may happen that a minute organism chances into a medium containing little or no oxygen-gas; amid these new conditions where it becomes necessary to move towards sources emitting oxygen by voluntary effort and directed motion, it has been discovered that a great number of Micro-organisms, and particularly Bacteria, are capable of detecting the expansive power exerted by oxygen in the liquids in which they are found. When bacteria of putrefied matter are put in a drop of water containing no oxygen but in which have been placed chlorophyl algæ, or green Euglenæ, or grains of chlorophyl obtained by crushing green cellules, nothing happens in the first instant; but if the preparation be illuminated so as to allow the chlorophyl to act, the bacteria are seen to exhibit very rapid movements and to proceed, all together, towards the points of the preparation where the generation of oxygen is taking place, that is to say, about the grains of chlorophyl. Under these conditions a chemical exchange is instituted between the chlorophyl and the aërobious Bacteria: the Bacteria disengage carbonic acid gas and absorb oxygen; the chlorophyl fastens upon the carbon of the acid and sets the oxygen at liberty. If the preparation be darkened the Bacteria cease assembling about the chlorophyl grains, which, hid from the light, cease to disengage oxygen. The clustering begins anew, if a ray of sunlight is again let touch the chlorophyl.

Analogous facts have been observed under circumstances somewhat different. In a preparation from the intestines of a silk-worm, M. Balbiani has seen Bacteria which were uniformly distributed throughout all points of the preparation, gather about the green and undigested cellules of the leaves contained in the intestines, and bury themselves in them as if to partake of them. In other instances, the same naturalist has observed that Bacteria developed in a drop of silk-worm's blood, would gather, after a while, about the globules of the blood; undoubtedly for the purpose of seizing the oxygen being absorbed by them.

Upon the basis of these facts M. Engelmann has established the method called the Bacteria method. He regards bacteria as a living reagent which enable us to reveal the trillionth part of a milligram of oxygen, that is to say, a quantity scarcely greater, according to the calculations of physicists, than a molecule. This curious method enables us to explain biological problems which had hitherto remained unsolved. Before this, it was not known whether the colorless protoplasm of green plants could or could not disengage oxygen. It is now known, thanks to the bacteria, that grains of chlorophyl are the only points about which the liberation of oxygen takes place. The same method has enabled us to prove, in the variegated plants, that the maximum liberation of oxygen coincides with the maximum absorption of light. Thus, in the case of green algæ, the red and the violet colors of the spectrum are the spots where the bacteria ac-

* Translation copyrighted

cumulate the thickest; consequently here is where the liberation of oxygen is greatest. Now, these colors correspond to the lines of greatest absorption in the spectrum of chlorophyl. In the case of brownish yellow cellules, the maximum action is in the green; in the case of bluish green cellules, in the yellow; in the case of red cellules, in the green. The author has concluded from this that there exists a series of coloring substances which, like chlorophyl, have the power of resolving carbonic acid gas; he calls them chromophyls. In the same way, moreover, this method enables us to solve the question of the distribution of energy in the solar spectrum. As M. Engelmann has remarked, it is interesting to see the Bacteria come to confirm our theories as to the composition of solar light.

Bacteria are not the only organisms that eagerly make towards points where oxygen is to be found. A large number of other Micro-organisms act in the same way when they happen into a medium lacking oxygen. M. Ranvier has noticed that if a preparation containing leucocytes, screened from air, be examined for a certain length of time the cellules will be seen to throw out long filaments towards the part that faces the air-side of the preparation. It appears, then, that a rudimentary oxygen-sense exists in the protoplasm of Proto-organisms.

This sense does not merely apprise the organism of the presence of oxygen; it enables it, further, to gauge the tension (expansive power) of the gas. So that, when the tension becomes too powerful, the organisms are seen to flee before it.

(To be continued.)

THE PROBLEM OF CAUSALITY.

Causality, the law of causation, is the basis of all our experience, and a clear conception of causality is indispensable to correct observation as well as to sound reasoning. In spite of this, the problem of causality has been unbecomingly neglected; the vagueness of terms, the lack of lucidity, and the innumerable errors springing from such uncertainty are astounding. Expressions such as 'first cause,' 'ultimate cause,' 'final cause,' 'remoter cause,' 'general cause,' 'universal cause,' '*causa sui*' are in vogue among thinkers of no inconsiderable repute. In elucidating the problem, we shall first propose a few examples, then our definitions, then some explanations, and finally discuss the erroneous conceptions of causality.

EXAMPLES.

I. A sculptor is modeling in clay; after much pressing, trimming, and finishing, a figure is shaped. The form of the statue is the effect of his work. [Production of a new form of matter.]

II. A key on the piano is touched, the hammer strikes the chords, and a sound is produced. The sound is called the effect. [Production of a new form of energy.]

III. A chemist brings hydrogen and oxygen together. An explosion takes place and water is produced. The water is called a product of the combination, and the form in which hydrogen and oxygen are combined in water is the effect; of which the combination (the act of combining) is the cause. [Creation of a new form of matter, being another substance and exhibiting new properties.]

IV. The trigger of a loaded gun, pointed toward a deer, is pulled. The deer is hit and dies. The pull on the trigger is the cause, and the death of the animal is the effect. [Destruction of form.]

V. During a rainless season water is poured every evening on an almost withered plant. The plant commences to thrive, it grows and sprouts, and after a while it brings forth blossoms. The plant's blossoming is the effect of its repeated irrigation. [An example from the vegetable kingdom.]

VI. A mother loving her child more than her life, observes that a lion of a menagerie is at large in the market-place. All people flee. Her baby is left behind by its nurse and the lion approaches the infant. The mother rushes out of the house and rescues her child in the face of the lion. [An example taken from human life; the story is an historical fact, known under the title of "The Mother of Florence." The cause, in this case, is the motive of the mother; the effect is the rescue of the child. The motive is mostly a very complicated state of mind, which in the present instance can be summarily characterized as a mother's desire to save her child.]

EFFECT.

The effect has not existed before. It has been produced by its causes. What then is the effect?

Matter cannot be created, and energy cannot be created; the effect, therefore, can only be a *new form* of matter and energy:

I. The clay of the sculptor existed before the statue; the form of the statue alone is new.

II. A sound is a special vibration of air. The air (in instance No. II) is not created nor is the motion of the air created out of nothing. The vibration of the sound is nothing but transmitted energy coming from the muscular action of the finger that struck the key. The effect, accordingly, is a special form of energy agitating the air.

III. The material elements of the water (H_2O) existed before their combination. The water, in so far as its material particles are concerned, has not been produced. The effect of a chemical combination of H_2O can be called water in so far only as water signifies the *form* into which the elements have combined. In

common language we make no distinction between water as matter and as a combination of the two elements.

IV. The death of an animal caused by violence or by natural sickness is destruction of form. True, it is a destruction of life, but life is not a material object, not a thing of substance; life in the narrower sense (the individual life of a deer) is the spontaneous activity of a certain body; it is a form of nerve-energy. Life in the broadest sense of the word, meaning force, or spontaneity, or self-motion, with which all matter is endowed, can not be destroyed. It is indestructible, as we know from the law of conservation of energy. But life in the narrower sense is a certain combination of energy in the special form of an animal body. Death is the destruction of this form; while propagation, being growth and transmittence of form, is a continuance of the paternal form of life in offspring.

V. The blossom of a plant is not the effect of its irrigation. The matter of the blossom, the elementary particles of which the blossom consists, have existed before as water, air, and parts of the soil. And the vegetative energy stored in its cells has also existed in the shape of sunbeams or otherwise. The effect produced is this special form, in which by assimilation and transformation the organs of the plant have combined energy and matter as a blossom.

Definition. Accordingly effect is a new state of things: a new arrangement; a new form produced through some alteration of circumstances.

CAUSE.

The previous state of things, which existed before any effect was produced, cannot have been at rest. If it had been at rest, no effect would have been possible. The previous state of things must have been in motion. Without motion no causation. Motion is an alteration of place. When properly combined, the atoms of oxygen and hydrogen will shape themselves into new configurations. The cause is a motion; it is their properly meeting each other. The atoms being of a certain size and shape, and having special powers of attraction, so that they fit to one another, appear in the new form of water.

A chemist who makes the experiment has, as a matter of course, to observe all the conditions under which the process takes places.

A gardener who waters a plant must at the same time take care that the plant receives sufficient sunlight, that it stands in good soil, and is protected from injurious insects. These facts taken altogether, are called the circumstances. Circumstances in so far as they are indispensable to the realization of an effect, are called conditions

Definition. Cause (being the factor that produces the effect or the new state of things) is a motion. It is an alteration in a certain state of things whereby a further alteration, a re-arrangement or a new combination, becomes necessary.

EXPLANATIONS.

1. *Causes and Conditions.* It is obvious that if in a certain state of affairs the effect is produced by several, perhaps simultaneous, movements, we may arbitrarily call one of them the cause and the other ones its conditions, or we may call all of them together the causes. So for instance, the sunbeams (not as things, but as a motion, as ether-vibrations) may be called the cause of blossoming just as well as the watering; or we may designate both as the common causes.

2. Cause and effect are two states, the one following the other: The causal state disappears by creating the state of the effect; or in other words, the cause, vanishing as such, reappears in the effect. The same matter, the same energy are exhibited in a new form or a new combination.

3. The scholastic maxim, *cessante causa cessat effectus*, is accordingly wrong. The cause is always passed, if the effect is produced.

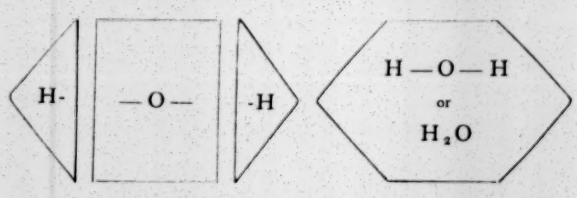
4. Causes and effects form an infinite chain of alterations; every cause is the effect of another cause; and every effect can become the cause of another effect. If a key on the piano is touched, a lever is set in motion which raises a hammer; the hammer strikes against the chords and sinks back; the chords vibrate according to their length and induce in the air corresponding undulations. The air-waves meet a human ear and transmit their rhythmic motions to the tympanum, thence the disturbance passes through many stations in the aural apparatus and reaches the auditory nerve where it is perceived as sound. In this and in all other chains of causes and effects, any of the succeeding stages may be called the effect of its antecedents and the cause of its consequents.

Accordingly the signification of cause and effect is to a great extent arbitrary and depends much upon the proper tact of the observer. He should select as cause and effect two states which somehow correspond to one another in importance for a special purpose. How far the intermediate links can be neglected, depends upon circumstances.

5. Our example No. III (the generation of water) is often used as an instance to prove the transcendence (or unknowability) of the law of causation. However, there is no room for mysticism if we take into consideration that the product is a new molecular form of its constituent elements. By molecular form of water, we understand the combination of H_2 with O in that special form in which it appears as water.

Suppose we have a rectangle of 5 x 3, and two equi-

lateral triangles, the bases of which are 5 and the sides 3. Combine the two bases of the triangles with the longer sides of the rectangle and we will have a hexagon all whose sides are 3. The rectangle, as such, has disappeared, and the triangles, as such, have disappeared also. A new form is created, a hexagon, which has lost the properties of its component figures and possesses properties that were not exhibited in the same. The longer sides of 5 which existed in the triangles as well as in the rectangle are as such altogether lost in the hexagon. The hexagon is equilateral and has six obtuse angles, while the triangles have two acute, the rectangle four right angles, and neither the triangles nor the rectangle are equilateral.



Some imagine that the properties of a combination must have before existed in a latent form; but in our geometrical instance this is evidently impossible. The hexagon is an entirely new form, which has neither existed in the one nor the other of its components. If such is the case in this extremely simple instance, how much the more is it true of the highly complicated combinations and changes of form in reality, which by the smallness of atoms are not directly observable, and can often only be guessed or traced with greatest difficulty!

It is a fact which is overlooked by great thinkers that by combination or change of form things can be created which never existed before in that form, and the qualities of which can neither as latent nor as apparent properties be traced in their constituents.

6. Materialism overlooks the importance of form. While justly opposing the wrong conception of any immaterial existence, materialism goes too far when it considers matter as the only aspect of phenomena, thus making it the sole principle of explanation. Mr. Spencer tries to reduce everything to matter and motion, and Professor Louis Büchner similarly proposes his philosophy of *Kraft und Stoff*. In this way they fail to see that evolution, progress, the occurrences of inorganic nature as well as the highest aspirations of man, can only be explained from the fact that new combinations or new forms are actually new creations.

It is undeniable that immaterial realities can not exist. The thing exists by its being material; and its reality is manifested by its being a combination of energies; it is a *Kräfte-Complex*. But the thing exists *as such*, because it has a certain form. Destroy the form and the thing as such ceases to exist and changes into something else.

Diamond, graphite, pure coal, and soot, so far as their material constituents are concerned, are the same; all being carbon. And yet they are radically different things, with different properties. Diamond is as white and clear as water and as translucent as air. It is the hardest substance known in nature. Coal, graphite, and soot are of the deepest black, and are soft enough to leave dark, lead-colored traces on paper. Diamond is rare and valuable, while the other formations of carbon abound in nature. The difference of these simple substances is exclusively one of form.

Combinations of the same chemical composition, with different properties, are called isomeric. For instance, the formula $C_2 H_4 O_2$ represents acetic acid as well as methyl ether of formic acid, the former being an acid the latter a neutral substance. The boiling point of acetic acid is almost 90° higher than that of the methyl ether of formic acid, and with same substances the one forms other combinations than the other. Grape sugar, being $C_6 H_{12} O_6$, consists of the same elements in the same proportion also. Quite different from the other two substances, it is sweet, crystalline, capable of fermenting, and neutral to litmus paper. It is neither an acid, a base, nor a salt.

Graphic formulas * have been invented in order to give a visible expression to such differences.

Consequently a thing, a body, a substance, is not only the sum total of its material elements, it is *the form* of its material elements. Materialism is right in so far only as it maintains that things exist at all because they are material; but it must be remembered that they exist *as such* because they have a certain form. Form, so to say, is the soul of things.

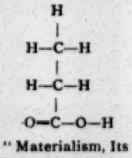
The same is true of man. Man is not only an aggregate of matter and energy; he is an aggregate of matter and energy *in a special form*. And it is the form which makes him a man. Prof. Büchner says: †

"The greatest of all poets who has ever lived and whose masterpieces are immortal, because he stood upon this ground of truth and reality, *Shakespeare*, was already a Materialist in his

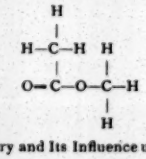
* The elements differ in atom-fixing power. An atom of hydrogen, being able to attach to one atom of any other substance, is called a monad, which is expressed by H′; an atom of oxygen is a dyad, O″; nitrogen a triad, N‴; carbon a tetrad, C⁗ or $C^{iv.}$ The graphic formula for water is: H—O—H.

Propionic acid, Methyl acetate, and Ethyl formate (all three being $C_3 H_6 O_2$) are, as their names suggest, entirely different substances. They have been expressed by graphic formulas in the following way.

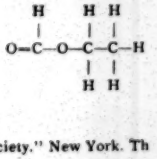
PROPIONIC ACID.



METHYL ACETATE.



ETHYL FORMATE.



† "Materialism, Its History and Its Influence upon Society." New York. Th Truth Seeker Co.

innermost convictions, and with his prophetic eye pursued the eternal wanderings of matter as the last and primitive cause of everything that exists, through the same pathways, upon which modern science has traced it with mathematical certainty, when he says (Hamlet, v. 1):

> 'Imperious Cæsar, dead and turned to clay,
> Might stop a hole to keep the wind away;
> Oh! that the earth that kept the world in awe,
> Should patch a wall to expel the winter's flaw!'"

In the bible God says to man: "Dust thou art and unto dust shalt thou return." So, God must have been "already a materialist in his innermost convictions." But this biblical utterance is only one side of the truth, it is the one-sided truth propounded by materialism. The other side of the truth is, that man as such is form; and form is changeable; it can be evolved, and this evolution of form is the purpose of our life, the ideal of our aspirations and the basis of ethics.*

WRONG CONCEPTIONS OF CAUSALITY.

1. Cause is an alteration in a state of things and effect is a new arrangement of things. But cause and effect are never objects or things. A thing by its motion or a person by his labor may produce an effect; but the thing itself or the person is never a cause, nor is the thing produced an effect. A sculptor may carve a statue; the sculptor is not the cause, and the statue as a thing is not the effect. The sculptor's labor is the cause; and the effect is the special *form* of the wood, clay, stone, or bronze, *i. e.*, the statue without reference to its material.

2. God has been called 'first cause.' First causes are of mere relative existence. A first cause is the starting-point in a series of some longer chain of causes and effects. The first cause in our second example is the touching of the key; all the effects of this cause are later causes in the series. According to the nebular hypothesis of Kant the first cause in the formation of our planetary system must have been an unequal distribution of matter. This state of things happened many billions of years ago, and has passed away, as any cause must disappear when its effect has resulted.

'Ultimate cause' is a synonym of 'first cause.' The first term becomes the ultimate one if we count backwards. The expression 'ultimate cause' is even more unfortunate than first cause.

3. Hume speaks of 'general causes,' meaning thereby natural laws. The Germans distinguish between *Grund* and *Ursache*. *Ursache* is what we have defined as cause; *Grund* is the law by which we explain *why* the cause acts. *Grund* is the *raison d'être*, the reason, the principle, the law according to which things change or move, and according to which men act. For instance, gravitation is not the cause that a stone falls to the ground. The cause may be that my fingers let it go. Gravitation is the *raison d'être* of a stone's fall in this particular instance as well as in any other case. A cause is a single event, a single fact, a certain motion or alteration. The *raison d'être* of gravitation, however, is a general law and a principle of explanation.

Those who call God the first cause really mean to call God the ultimate ground of the world; they intend to represent him as the most comprehensive principle of existence; as the ultimate generalization of all laws.

4. The scholastic dictum, *cessante causa cessat effectus*, which is quoted above as wrong, refers to this *raison d'être*. It should read, *cessante ratione cessat causatio*, *i. e.*, if the ground or reason, the rationale, ceases to be valid, the cause cannot take effect. For instance, love of freedom was the *raison d'être* of Greek industry, progress, and civilization. As long as this love of freedom prevailed, Greece was free, prosperous, advancing, and civilized. As soon as this love of freedom yielded to indifference, avarice, and other vices, Greece began to decline. It was a ground but but not a cause—it was a continuous principle which manifested itself in many single cases. So the law of gravitation is no cause, but a law recognized in many instances and regulating the causation of gravitating objects.

5. The *causa sui* of Spinoza is one of the worst self-contradictions in existence, designating "a cause which is the cause of itself." Spinoza apparently means *ratio sui*, a reason or principle which explains itself; a ground which has its ground in itself, meaning a self-evident truth that for verification does not depend upon some other evidence. Spinoza confounds this *ratio sui* with the idea of an absolute existence; *i. e.*, an existence which contains in itself the ground or *raison d' être* of its existence. On this logical error rests the whole structure of his grand and noble philosophy.

6. 'Final cause' is a most unfortunate expression for purpose. The schoolmen distinguished 'effective causes' and 'final causes.' It is obvious that all causes are effective. If a certain cause is the will of a man, the idea which guides him is an indispensable condition. This idea is the end to be attained. If such causes are to be called 'final causes,' we must bear in mind that these 'final causes' are just as much effective causes as any others. There is no essential difference. Both result into their effects with the same necessity.

Final cause being an inappropriate synonym of purpose, has only sense when it is used in reference to a will. We cannot speak of the final cause of cereals as being serviceable food for man. There is no final cause in nature outside of the province of volition.

* Compare Mr. E. C. Hegeler's essay, "The Basis of Ethics," in No. 1 of the OPEN COURT, and the editor's pamphlet, "Monism and Meliorism," V., §5-9

7. *Causality immanent. The world no chaos, but a cosmos.* Those who use the word 'final cause' in a more general sense, imagine that a divine providence has arranged the order of things according to some plan or design. They consider the universe by itself as chaotic, and believe that God imposed law and order upon it from the outside.

Materialism, denying altogether the existence of final causes and design in nature, falls into the same error as its enemy, dualistic superstition. Materialism also considers the universe as originally chaotic, and explains the order of the world as the fortuitous outcome of haphazard, which if once happily arranged has necessarily more stability and more chance to continue so than other, chaotic formations. This view disagrees with facts. The relatively chaotic combinations of lower natural manifestations are more stable than the higher evolved forms of life, the highest forms being least stable.

Monism teaches that the order of the universe is not transcendent; it is not imposed upon nature from the outside; the order of the world in its mechanical regularity is immanent. The world is no chaos, it is a cosmos, and if God is to be called the order of the universe, monism teaches that God is immanent; God and the universe are one.

8. *Order not fortuitous, but necessary.* The truth that the creations of nature, planetary systems as well as organisms, the organs or limbs of animals and plants, etc., are necessary and not fortuitous results, does not stand in contradiction to the fact that nature before realizing the relative perfection of a certain formation has to meet with many failures. These failures are the stages on the highroad of creation and are as such the indispensable conditions of a final success.

Organs perform certain functions. These organs have neither been devised by a provident demiurge, nor did they originate by chance. Comparative physiology has proved beyond any doubt that every organ has been produced by its own function. A function again is the *consequens* of a want, being some readjustment or solution of a certain tension. The chemical affinity of protoplasm to oxygen and water, etc., produces, after a consumption of these materials, a kind of hunger to replace them. The hunger of protoplasm for oxygen has produced lungs and the pores of the skin, while the hunger for water and food has formed stomachs. All the many thousand trifling processes which take place from the first dimly felt want to the relative perfection of a properly working organ are necessary steps in the course of evolution.

Imagine how many billion atoms one drop of protoplasm contains! How many billion times billion combinations of these atoms are possible, and how many more are impossible. Should nature have tried them all, or at least part of them at random, until at last she has happily hit one of the right combinations, a possible combination among the unlimited number of impossible combinations? Certainly not! The origin of life, or of protoplasm, or of any organic or any orderly arranged form, cannot be explained as a fortuitous result. One might just as well maintain that the Iliad originated by a fortuitous combination of Greek letters; and with some pretence of proof you may adduce the fact that we have evidence for several futile attempts preceding the consummation of the Iliad, being made to create national epopees in Greece; the last attempt, having happily been the right one, survived. The error of this theory is manifest. Organic life and all orderly arranged forms of nature originate by necessity according to mechanical laws, and necessarily only the better ones can survive.

Supernaturalism says: "The order of the world is the result of some wise and omnipotent providence." The demiurge has arbitrarily made the world, as it is, in monarchical fashion according to the rule, *car tel est notre bon plaisir*.

Materialism says: "Reason originates by chance from the Unreasonable." *Vernunft* must be explained from *Unvernunft*,* order from disorder, for order is only one of the many possible states of disorder.

Monism explains order from order, and declares that the most complicated forms of order can be reduced to the most simple laws. The most difficult calculations of higher mathematics are based on the simple functions of addition and subtraction, the most abstract logical conclusions ultimately rest on man's faculty of combining and separating† his concepts, and man's thoughts as well as emotions being, physically considered, motions which take place in his brain-cells, work in accordance with certain laws. The science of the laws of motion is called mechanics.‡ Consequently, as sure as there is order everywhere, in the formation of nebulas as well as in the formation of life, man's thoughts work in accordance with mechanical laws.

In brief, the order of the world is neither a fortuitous result in a play of blind forces nor the designed wisdom of a personality like ourselves, only omnipotent in his powers; the order of the world is throughout immanent and necessary. P. C.

* See translation from Kant in the editorial remarks to the article "Monism and Religion," page 1206 of THE OPEN COURT.

† We prefer the expression "combination and separation" or "combination and abstraction" to Max Müller's "addition and subtraction."

‡ Mechanics, as all the other formal sciences, mathematics, arithmetic, geometry, logic, etc., cannot be employed for enlarging our experience or explaining the ultimate *raison d' être* of existence. But our experience must, throughout, conform to the because existence is throughout regulated by these formal laws.

MONISM AND RELIGION.

A REJOINDER. BY DAVID THEOPHILUS.

*With Editorial Remarks.**

(Concluded.)

My worthy opponent Mr. E. P. Powell says, that whoever inquires into the cause of phenomena, is religious, nay, must be religious, as in this way he must come upon a first cause and a final cause or design in nature: and that Strauss, by virtue of his being a man of science, had more religion than Talmage. Doubtless, this is a novel method of looking at things. If what he says is a fact, then there cannot be meaning in words, nor truth in history. What history tells on the subject is that the scientific conception excludes the religious, and that by pursuing the scientific method men have not acquired religion, but lost what they once had.

[Mr. Theophilus, differently from Mr. E. P. Powell, uses the word "religious" in the sense of "superstitious."—ED.]

To a man who views the world from the monistic point of view, the idea of first and final cause or design is inadmissible: for it is a conception born of dualism.

[Mr. Theophilus is correct in stating that the ideas first and final cause are untenable. For further explanation of this subject see the editorial of this number.—ED.]

The idea of causality, doubtless, has been obtained from the consciousness of ourselves as agents. It has been got by simply projecting our own causality or personality back to the dim past, and telling it make things out of nothing or otherwise; and then name it God. But what is the use of such a fanciful creation, when its realization is unthinkable. It is not power we want. It is not will; nor is it intellect: nor anything else known to our faculties. Nothing in our line of goods will answer the purpose.

Two gaseous substances come in contact under certain conditions, and water is produced. A male and a female unite under certain other conditions, and a living being is the issue. The mind of the chemist is given credit for the one and the Divine mind for the other. But as a fact, the greatest chemist that ever lived is as ignorant of the process as the browsing ox in yon field.

[That is hard on our scientists, but it is not true. If it were true, it would be useless to take the trouble to investigate, for the browsing ox is undoubtedly happier than most men.

[The above statement of Mr. Theophilus would be true if the agnostic dogma could be proved, that behind every knowable phenomenon there is something unknowable as its cause.

[Should Mr. Theophilus really succeed in proving that our scientists know no more about the process of generating water from H_2O than the 'browsing ox in yon field,' I shall become a convert to agnosticism and reverently bow down before the Baal of Unknowability. Agnosticism stands in opposition to theology, in so far as it is supernatural dualism. Theology declares that "the first cause" of natural phenomena is a personal being like ourselves; agnosticism says that the causes of phenomena are unknowable, but anyhow they cannot be personal. Monism knows nothing of such "unknown causes." Causation is no mysterious process and causality is the very condition of the knowability of nature. Any kind of dualism, the theological as well as the agnostic dualism, if consistent, will lead to mysticism. Here the two bitter opponents may shake hands.—ED.]

Magnify an intellect a million fold and tell it produce one small particle of dust, or cause one blade of grass to grow, and it will be as incapable for the feat, as the embryo that lies in the mother's womb. And yet, when certain conditions are there, the blade of grass, we all know, will come forth, and must come. There is no power in the universe to prevent it. It is under as much compulsion to grow when the conditions are present, as not to grow when they are absent. And the same is the case with dust formation.

The truth is, a man who professes himself a monist knows no first nor final cause, nor indeed causality in the true and original sense of the word, as involving the idea of a conscious self-acting agent.

[We go one step farther than Mr. Theophilus. We not only exclude "the idea of a conscious self-acting agent," we exclude all kinds of agents, also the impersonal agents which are supposed to be the mysterious unknowable in natural phenomena.—ED.]

First and final cause are words and conceptions which belonged to the vocabulary of dualism. They did duty under the regime of theology, faith, and metaphysics; at a time when everything was explained by putting an agent, a soul, or a god behind it, and when there was no question asked as to how it got there.

A strictly man of science or monist, has no ideas corresponding to the old conceptions connected by such words as first cause, design, or final cause. The truth of this has been fully and clearly grasped by the great monistic thinkers of the past, notably by Lucretius and Spinoza. To these master thinkers, looking upon the world from the monistic standpoint, such ideas as design, final cause, God, soul, immortality, providence, religion, necessarily lost their signification. And the words no longer for them had any use or meaning. The ideas had been effaced from their mind by the larger conception which had taken hold of it.

[Spinoza attempted to change Des Cartes's dualism into a unitary conception; his system is one of the grandest philosophies ever thought out by a mortal. If he did not succeed in propounding true monism, it must be attributed to his misconception of the word "cause." The idea of God did not lose its significance with Spinoza; it was certainly not "effaced." His God is defined as *natura naturans*, as *substantia*, and as *causa sui*, which latter term is even more incorrect than "final cause" or "first cause."—ED.]

The flickering light of the rush-candle is of use only in the dark. When the sun rises its utility is gone. Similarly, a large, comprehensive view of the world, renders all local, provisional, limited, make-shift conceptions useless; like a complicated piece of machinery superseding the use of all previous crude manual contrivances.

Lucretius saw in nature only the eternal conjunctions, separations, and interdependence of elements. And the existing order was no proof of a designing mind, but simply a special arrangement of the infinite possibilities of the combinations of the primary elements. The first elements after testing every kind of position and production possible by their mutual unions, at length settled in the form and way they now present; and preserve it, because such a position has been found on trial conducive to preservation or existence. And as was the case in brute nature, the same Lucretius found in civil societies. Order is the result of no pre-arrangement designed by the wise man, but the outcome of the conflict of wills, desires, and impulses.

It was only after the exhaustion of physical violence that order or equilibrium was obtained in nature. And it was only after traversing many false paths that mankind attained finally to the right, which, when once found, afterwards maintains itself, simply by reason of its intrinsic worth.

What is called order in both external nature and human so-

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*Lack of space prevents us from writing an editorial article in answer to this Rejoinder. The necessary replications will appear as parenthetical insertions marked by hanging indentations. The Rejoinder by Mr. Theophilus refers to the Editorial in No. 30, "Superstition in Religion and Science," and to Mr. E. P. Powell's article, "Monism and Religion," in No. 35; it was received a few weeks after the appearance of the latter, and its publication had hitherto been chiefly delayed on account of the pressure upon our columns.

ciety was simply the way wherein coexistence of particles or of individuals, is maintained. Maintenance of existence is the criterion of order. The elements or individuals might have come in contact and separated millions of times. In such cases there was no order or law; but when a permanent union was formed, there too was necessarily order.

Mankind finding permanency, and therefore order, in things during their own lifetime and that of a few of their ancestors, jump to the conclusion somebody must have made it so. Such a conclusion doubtless seems plausible enough to them from analogy of their own activity. Man as agent or person puts other things together in this or that shape to suit some previous plan; and by analogy he argues there must be somebody who placed things in the shape they now wear. But what right has he to measure the operations of the universe by his own doings? It is nothing but lack of knowledge of the actual facts that compels a man to resort to this arbitrary method of explaining things. Nevertheless it has been used universally in the lower stages of progress to explain all problems.

[The great difference between the materialistic and monistic conception of the world is, that the former considers the present order of things as fortuitous, the latter as necessary. Materialism says: "The first elements, after testing every kind of position and production possible by their mutual unions, at length settled in the form and way they now present." Monism says: "According to mechanical law they arrange themselves thus and not otherwise." Consider how many billions of other compositions of the atoms in an amœba are possible, or at least thinkable! And nature should have tried all these infinite possibilities, or part of them, before creating the amœba, and then the hydra, and then the worm, and so forth? Oh no! The order of the world is no hap-hazard effect, it is no fortuitous outcome of chaos. *There is no chaos and never has been a chaos.* Even in the gaseous nebula there is order and law, and it appears as chaos only in comparison to the more evolved state of a planetary system. Thus the barbaric stage of savage life appears to us as lacking in social order; and our present state of civilization, it is to be hoped, will appear to future generations as the chaos out of which their better arranged society emerged.

[Kant says on this subject: "The aforementioned expositors of the mechanical theory of cosmic genesis (Epicurus, Leucippus and Lucretius) derived every arrangement perceptible in the cosmic system from fortuitous accident, which caused the atoms so to hit together that they made up a well-ordered whole. Epicurus, indeed, was so presumptuous as to require the atoms to swerve from their direct motion without any cause at all, in order to be able to meet one another. They, every one of them, carried this nonsensical principle so far as to ascribe the origin of all animate creatures to this same blind concurrence of atoms, and actually derived reason from what is not reason (*Vernunft* from *Unvernunft*). In my system of science, on the contrary, I discover matter joined to certain necessary laws. In its complete dissolution and dispersion I see a beautiful and orderly whole naturally developing therefrom. This does not occur through accident or at hap-hazard, but it is seen that natural properties necessarily bring it about."

[Kant argues that this necessary order is a proof for the existence of God. We add from our standpoint that this order *is* God.—Ed.]

History for centuries has been read in the light of the final-cause theory.

The powerful king, the holy priest, and the wise legislator, each and all were agents acting with foresight and wisdom upon passive human beings, in formation of societies and kingdoms, the establishment of religions, the promulgation of laws, and the forming of constitutions. The great, holy, and wise men did everything as agents; and these in turn were looked upon as instruments in the hands of a remote agent—the Divine First Cause.

This final-cause method of interpreting history is now abandoned as false. It has been discovered that laws and constitutions, as well as religions, are simply the outcome of circumstances. They are growths and not creations.

And as was the case with history the fate of the theory has been similar in other departments of knowledge. The old orthodox way of accounting for the production of a good book was to assign its authorship to an agent other than the real author—the latter was inspired or divinely instructed. Now it is allowed that a poet is not made but born.

In psychology the final-cause method of research, after having held its ground for centuries, has been finally made to give way to a more scientific method. Intelligence is no longer accounted for by the hypothesis of a soul within us—an agent using the body or the senses as a medium. Here, as was the case in other provinces of knowledge, the theory has altogether fallen into discredit.

But in the study of nature generally, we must still, it seems, be guided by the very theory and use the very method which in other known fields of inquiry has proved false. The application of this method to the interpretation of nature is to Mr. Powell evidence of culture and development. According to him the more culture one has, with the more assiduity and thoroughness will he apply the design argument in the interpretation of phenomena; for what else can these and other similar expressions mean:—"In proportion as a brain is logical, cultured, and informed, it must have the religion of causality." He must have known that evidence went the other way.

The Design Argument has been more largely relied upon by men deficient in culture than by the well disciplined intellects. Among savage and barbaric peoples it is in universal use. It is to these the only natural and eligible method of explaining the world.

The Design Argument or First Cause philosophy is, at best, but a reminiscence or survival of the barbaric method of philosophizing. At a certain stage of culture it has generally been found inadequate. To Lucretius, Spinoza, Kant, Mill, Bain, Spencer, and Comte, it has, as an argument, proved altogether inadmissible, and these, doubtless, have had "brains logical, cultured, and informed."

[It must be understood from the outset that the ideas final cause and design in nature are untenable, if they are conceived as a plan made by a divine personality. But these ideas are not so utterly worthless as Mr. Theophilus thinks. Undoubtedly, there *is* design in nature, if design means order and law. There *is* plan and purpose in the evolution of organic life, if plan and purpose of evolution mean their development with a definite direction toward the realization of what may be called ideals, of certain forms of life higher evolved and better adapted to their conditions of existence so that they come more and more in harmony with the universal order of things.

[This design in nature will be the better recognized the more man advances in his comprehension of the unity of nature.—Ed.]

The verdict of science, so far as I am able to perceive, is, that by the mere use of the scientific method, there is discoverable in nature neither a First nor a Final Cause: and that postulating such a Cause is, therefore, unwarrantable.

[In closing our discussion with Mr. Theophilus, we express our sincerest thanks to our honored critic for the interest he takes in the religion propounded by The Open Court. Religion, it appears, is not so dead a letter to him as he imagines, and this zeal to remove superstition proves the power of religious principles upon his mind; a power called by Kant the Categoric Imperative, and "which the old religion possessed in a high degree"—a power, of which Mr. Theophilus has unjustly spoken slightingly. This power, being the essence of religion, does not lose its hold upon humanity when superstition is removed.—Ed.]

THE SOURCE OF POVERTY.

A CRITICISM OF WHEELBARROW.

NEW YORK, July 23, 1888.

To the Editor of THE OPEN COURT:—

Dear Sir:—Kindly permit me to offer a few critical remarks on "Wheelbarrow's" essay contained in No. 47 of THE OPEN COURT.

Wheelbarrow's eyes are not shut to the many symptoms of our social disease, nor is he unwilling to do his fullest share, by means of well meant suggestions, to mitigate these evils. But since he does not comprehend the nature of the disease, it is impossible for him to effect a cure.

"That squalor abounds in all great cities," says Wheelbarrow, "is confessed by everybody. Squalor is the sediment of cities. Its causes are a thousand, its cures must be as many."

Is this so indisputable as it is here stated, is Wheelbarrow so so positive that all these symptoms are so many different diseases, springing from just so many different causes, and necessitating as many different cures?

To the experienced physician, the fact that his patient is complaining of headache, indigestion, pain in his side, and cold feet, is no evidence that he is suffering from four different diseases, nor will he, if he can lay claim to the title of a scientist, proceed and prescribe one medicine for headache, another for indigestion, and so forth; but he will try to trace, and in most cases does trace, all these symptoms to one great fundamental disorder, knowing fully well that if he succeeds in removing this one underlying cause, all the other complaints will without special treatment disappear.

So it is with our social disease. All the many different symptoms, squalor, ignorance, intemperance, the "scab," and many others, which to Wheelborrow seem to be evidence of just so many different diseases, to my mind are but the outgrowth of *one* great fundamental, social disorder, that can be cured by nothing short of the removal of this disorder.

Poverty is the *real* disease, and nothing short of abolishing poverty can be the *real* cure.

Of what avail is it to moralize about the many petty defects of human nature. The poor man knows fully well that drunkenness is not confined to any class, that the rich man does his share of it, and yet it does not reduce *him* to poverty, he knows the rich man does not practice economy and yet does not grow poorer. Nay, he knows that the very fact that the laborer does economize, that he is saving a few dollars, will put but another weapon into the hands of his employer to further reduce wages, and will thus be turned into an evil rather than into a blessing. "The bank book of a mechanic," says Col. Ingersoll, "is a certificate that wages are too high." Thus giving in one sentence utterance to an indisputable economic truth. Under industrial conditions as they are prevailing now, where wages mean but their necessities, it will not benefit the laborers to reduce their necessities, but to that extent will reduce wages; thus directly benefitting not the laborer, but him who furnishes the necessities. Not that I do not appreciate the *moral* importance of sobriety. I have no apology to offer for drunkenness; nor will I attempt to shift it from the individual upon society (though a careful examination might succeed in doing so) as Wheelbarrow accuses Mr. Morgan of doing; but as an element of improving the material condition of the workingmen, it can in the nature of the case, be of no avail. It is not the men we must try to improve, it is the conditions that make men what they are, that must be altered.

Wheelbarrow is mistaken. The problem is not, as he thinks it is, of how to reduce the expenditures of the poor, to enable them to curb their desires by teaching them the blessings of self-denial; the real problem is how to increase their income, how to procure them a greater share, or rather their full share, of what they produce.

When our great coal barons, in silent conclave, determine to have no coals mined for a certain period, thus raising prices and by a simple edict depriving thousands of men of the opportunity to employ their labor, does not Wheelbarrow see that the strictest economy, the temperance of a St. John can be of no avail to these unfortunate men? They have simply been deprived of an inalienable right; a right granted to them by every law of nature: the right to the use of the earth.

Here is the gist of the whole matter. A great, an enormous, moral wrong is being perpetrated upon the masses. Thousands, nay millions, of men are cheated out of their birthright, the right to the use of the soil. Are refused standing room upon a planet that has come into existence without the help of any mortal being, and yet is parcelled out and owned as if so many houses, which being the result of labor may rightfully be owned by those that erected them.

Here is the fundamental social disorder, and here must we apply the cure. It is not by restricting people's desires, by reducing them to a mere animal existence, as would be the result of Wheelbarrow's propositions; nor by restricting personal freedom in turning the whole state into one great co-operative shop as Mr. Morgan proposes to do. It is not restriction, it is freedom that labor needs. Throw open natural opportunities, give the widest field to all individual operations, put all men on an equal footing in regard to natural bounties, by taxing to the fullest extent and for the benefit of the whole community that fund which has been created by the whole community, and all the many different symptoms, which now are so perplexing to Wheelbarrow, will disappear as if by magic.

It is impossible, within the limit this letter must necessarily be kept, to detail the effects that would be produced by a remedy at once so simple and so radical.

It is simply intended to point out in general outlines, the social disease, the sole cause, and the only remedy. He who sees that it is not the imperfection of the individual, that it is not he that is to blame, that the millionaire is but the complement of the tramp, that both are by necessity turned out by the same fundamental wrong that is at the bottom of our social system, will at once recognize the impossibility of obtaining any permanent effects by doctoring on the external symptoms, and will clearly see that nothing short of rebuilding our whole social structure will be of any real and lasting benefit to the masses.

The pages of THE OPEN COURT teach in almost every line that the laws of nature are at once impartial and unchangeable. Between the man who owns a kingdom and him who has not a roof above his head the difference is so enormous that to the untrained mind it seems almost a difference of kind. But to the student of natural law it is perfectly clear that both are but creatures of the same natural forces, that it is manifestly the condition, based upon social laws and customs, and in direct violation of all natural laws, that has raised the one to a king and lowered the other to a tramp. That the one can no more help being what he is, a king, than the other can help being a tramp, and that in order to raise the one, we need but lower the other.

This is a truth which socialists are apt to overlook. They see the laborers engaged in fierce competition against each other and at once conclude to abolish competition. But competition is a natural law, and they can no more abolish it than they can abolish the law of gravitation. Nor will it operate injuriously unless it is artificially restricted, so as not to embrace all parts of a community. Where land, the most important factor of production, is fenced in and considered the property of individuals, it is the landlord in whose power it is to determine whether labor shall be allowed to produce, or whether it shall go to waste, and it is the same factor that makes the terms. The land being a fixed quantity, with the number of applicants to work it unlimited, the landlord is

at once put beyond the necessity of competing for labor, while labor, through immigration and natural increase has to compete harder and harder for the privilege of working the land, thus ever increasing the value of it, until the struggle for existence becomes so fierce that no reward is left but the bare means of subsistence.

These are the factors from which evolves the iron law of wages, and no amount of moralizing about self-denial, temperance, etc., will ever change them. But once throw open nature's bounties to all. Once allow labor free access to all natural opportunities, by abolishing all taxation upon the products of labor, and putting it upon land values, taxing them to the last penny, and it will be seen that the holding of land is made impossible unless turned to immediate use, and competition will at once begin to set in among land holders and labor will stand on an equal footing in the making of the terms.

These are the points which every economist, who has the betterment of the masses at heart, must consider. Since nature is not concerned with the making of millionaires and paupers any more than with the making of Jews and Catholics, but since all such unnatural phenomena are but creatures of our own making, the unavoidable consequences of our laws, of environment, that must of necessity be, and remain just what they are as long as the same conditions operate to produce them, it is evident that the aim of him who wants to do mankind *real* services, who wants to emancipate labor must help to change the conditions, to change the laws, and change them radically.

For the disease is deeply rooted "and a little benevolent perfumery sprinkled on the decaying spots of our social system will not disinfect the slums, we must go down below the surface of our industrial condition and wrestle with evil in the place of its origin."

This is true. But does Wheelbarrow go down below the surface? Is he wrestling with evil in the place of its origin? Does he intend to give labor back that which no mortal power could rightfully take away from it and without which it cannot possibly exist?

Does Wheelbarrow intend to give labor back the right to the use of the earth?

I remain yours most sincerely, SOL. LEVY.

THE LOST MANUSCRIPT.*

BY GUSTAV FREYTAG.

CHAPTER XXIII—Continued.

There was general astonishment at the tea-table when the Doctor once hinted that he had been invited to a masked ball, and was not averse to attending the noisy gathering. The ball was given by a large circle of distinguished citizens, to which Mr. Hummel belonged. The peculiarity of this party was that the chief actors of the city were admitted as welcome guests. As the Doctor had hitherto never shown any inclination for this kind of social entertainment, the Professor was astonished. Laura alone guessed the cause, but all received the announcement of this unusual intended dissipation with silent pleasure.

Mr. Hummel was not of the opinion that a masked ball was the place where the worth of a German citizen was shown to greatest advantage. He had unwillingly yielded to the coaxing of the ladies in his family, and was now seen standing among the masks in the ball-room. He had thrown the little black domino carelessly about his back like a priest's mantle; his hat was pressed down over his eyes; the silk fringe of the mask overshadowed his face on all sides, which was as unmistakable as a full moon behind thin clouds. He looked mockingly on the throng of masks that streamed past him, somewhat less comfortable and more silent than they would have been without masks and colored coats. Obnoxious to him more than all were the harlequins scattered about, who, at the beginning of the festival, affected an extravagance of conduct which was not natural to them. Mr. Hummel had good eyes, but it happened to him, as to others, that he was not able to recognize every one who was masked. All the world knew him, however. Some one tugged at his clothes.

"How is your dog Spitehahn?" asked a gentleman in rococo dress, bowing to him.

Hummel bowed in return. "Thanks for your kind inquiry. I would have brought him for a bite of the calves of your legs if you had been provided with that article."

"Does this kind of a Hummel-bee sting?" asked a green domino, in a falsetto voice.

"Spare your remarks," replied Hummel, angrily; "your voice is fast changing into a woman's. I quite pity your family."

He moved on.

"Will you buy a pack of hareskins, brother Hummel?" asked a wandering pedlar.

"I thank you, brother," replied Hummel, fiercely; you may let me have the ass's skin that your wife tore from your face in your last quarrel."

"There's the rough felt of our city," cried, pertly, a little clown, as he gave Mr. Hummel a blow upon the stomach with his wand.

This was too much for Mr. Hummel: he seized the diminutive clown by the collar, took his wand away from him, and held the refractory little fellow on his knee. "Wait, my son," he cried; "you'll wish you had a rough felt in another place than on your head."

But a burly Turk caught him by the arm. "Sir, how can you dare to lay hold of my son in this manner?"

"Is this chattel yours?" returned Hummel, furiously; "your blotting-paper physiognomy is unknown to me. If you, as Turk, devote yourself to the rearing of ill-mannered buffoons, you must expect to see Turkish bamboo on their backs, that is a principle of international law. If you do not understand this you may come to me to-morrow morning at my office; I will make the thing clear to you, and hand over to you a bill for the watch-crystal that this creature from your harem has broken for me."

Thereupon he threw the clown into the arms of the

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* Translation copyrighted.

Turk, and the wand on the ground, and clumsily made his way through the masks who surrounded him.

"There is not a human soul among them," he growled; "one feels like Robinson Crusoe among the savages." He moved about the ball-room utterly regardless of the white shoulders and bright eyes that danced about him, and again disappeared. At last he caught sight of two grey bats whom he thought he knew, for it appeared to him that the masks were his wife and daughter. He went up to them, but they avoided him and mixed in the throng. They were undoubtedly of his party, but they intended to remain unknown, and they knew that would be impossible if Mr. Hummel was with them. The forsaken man turned and went into the next room, seated himself in solitude at an empty table, took his mask off, ordered a bottle of wine, asked for the daily paper, and lighted a cigar.

"Pardon me, Mr. Hummel," said a little waiter; "no smoking here!"

"You too," replied Mr. Hummel, gloomily. "You see there *is* smoking here. This is my way of masquerading. Matters are becoming wearisome. Every vestige of humanity and all consideration for others is being trodden under foot to-day; and that is what they call a *bal masqué*."

Meanwhile Laura slipped about among the masks, looking for the Doctor. Fritz Hahn could easily be discovered by sharp eyes, for he wore his spectacles over his mask. He was standing in a blue domino, near an elegant lady in a red mantle. Laura pressed up to him. Fritz was writing something in the hand of the lady, most likely her name, for she nodded carelessly; then he wrote again in her hand, pointing to himself. Probably it was his own name, for the lady nodded, and Laura thought that she could see under her veil that she was laughing. Laura heard the Doctor speaking to the lady of a *rôle* in which he had lately seen her on the stage, and he addressed her with the familiar "thou." That was, indeed, the privilege of a masquerade ball, but it was entirely unnecessary. The Doctor expressed his pleasure that in the balcony scene the lady had so well understood how to represent the glowing feeling of passion in such difficult metre. The red mantle became attentive, and, turning to the Doctor, began to speak of the *rôle* she had taken. The lady spoke for some time, and then Doctor Romeo would continue still longer. The actress stepped back some steps into the shadow of a pillar; the Doctor followed her, and Laura saw that the red mantle curtly answered some other male masks, and again turned to the Doctor. At last the actress seated herself quite behind the pillar, where she was little seen by strangers, and the Doctor stood near her, leaning against it, and continuing the conversation. Laura, who had also placed herself near the pillar, heard how animated it was. The subject was passion. Now it was not the passion which one felt for the other, but that of the stage; but even that was more than a friend of the Doctor could approve of.

Laura stepped hastily forward, placed herself near Fritz Hahn, and raised her finger warningly. The Doctor looked astonished at the bat, and shrugged his shoulders. Then she seized his hand, and wrote his name in it. The Doctor made a bow, upon which she held out her hand. How could he know her in that disfiguring disguise? He gave decided proof of his ignorance, and turned again to the lady in the red mantle. Laura stepped back, and colored up to her temples under the mask. It was in anger with herself, for she was the unfortunate one who had brought him into this danger: and moreover she had come in such a disguise that he could not recognize her.

She returned to her mother, who had at last been fortunate enough to find a companion in Laura's godmother, and had got into the corner of the room in order to exchange observations on the bodily development of the baptized little Fritz. Laura placed herself next her mother, and looked at the dancing masks with indifference. Suddenly she sprang up, for Fritz Hahn was dancing with the lady in the red mantle. Was it possible? He had long abjured dancing. More than once he had ridiculed Laura for her pleasure in it; even she herself had at times, when sitting before her private journal, thought how childish this monotonous whirling movement was, and how incompatible with a nobler conception of life;—now he was turning himself round like a top.

"What do I see?" cried her mother; "is not that ——? and the red one is ——"

"It is immaterial with whom he dances," interrupted Laura, in order to avoid hearing the hated confirmation of it. But she knew Fritz Hahn, and she was aware there was some signification in this waltz. Juliet pleased him much, otherwise he would never have done it; he had never shown her this mark of distinction. The old comedian of the city theatre approached them as Pantaloon; he had at last found out the two influential ladies; he tripped up to them, made grotesque obeisances, and began to amuse her mamma with his gossip. One of his first remarks was, "It is said that young Hahn will go upon the stage; he is studying his *rôle* as lover with our prima-donna."

Laura turned with annoyance from the flat remark. Her last hope was the time of unmasking; she impatiently awaited the moment. At last there was a pause, and the masks were removed. She took her mother's arm to go through the room to greet their acquaintances. It seemed a long time before she got into the neighborhood of Fritz Hahn, and not once did he

look at her. Laura made a movement with her hand to touch him gently; but she pressed her fingers firmly, and passed by fixing her eyes upon him. Now at last he recognized her, as he ought to have done long before. She saw the look of pleasure in his countenance, and her heart became lighter. She stopped while he exchanged some civil sentences with her mother, and she expected that he would acknowledge that she had already greeted him, but he did not mention a word of the occurrence. Had so many written in his hand that he could not bear in mind one poor little bat? When he turned to her he only praised the ball music. This was all the notice he thought her worthy of. His conversation with Juliet had been the free interchange of mind, but to her he only addressed a few indifferent sentences. Her countenance assumed the gloomy Hummel look, as she answered, "You used to have little sympathy for the jingling instrument to which the puppets dance."

The Doctor looked embarrassed, but laughed, and asked her for the next dance. This was bad tact. Laura answered bitterly, "When the grey bat was so bold as to flutter about Romeo, he had no dance free for her; now her eyes are blinded by the bright light." She bowed her head like a queen, took her mother's arm, and left him behind.

What followed was still more aggravating. The Doctor danced once more with the lady in the mantle. Laura observed how fascinatingly she smiled on him, and he danced with no one else. Of her he took no further notice, and she was glad when soon after Mr. Hummel came up to them and said: "It was difficult to find you. When I inquired of the people for the two ugliest disguises, you were pointed out to me. I shall be glad if to-morrow morning you awake without headache. We have had enough of pleasure today."

Laura was glad when the carriage arrived at home; she rushed up to her room, hastily took her book out of the drawer, and wrote rapidly:

> "Cursed be my deed and cursed all sinful art;
> My own true happiness is now at stake
> A troup of enemies surrounds my heart,
> Which b'eeding from so deadly wounds will break."

she wiped away the tears which rolled upon her paper.

The bright light of the following morning exercised its tranquilizing influence on her fluttering thoughts. Over there Fritz Hahn was still lying in his bed. The good youth had tired himself yesterday. Many drops of water might still flow into the sea before friend Fritz would determine to unite his fate with an actress of tragedy. She brought out her supply of old ballads and selected one; it was a very jolly one: the May-Bug's Marriage—in which the may-bug on the hedge asks in marriage the young maiden fly. Many little birds occupy themselves seriously about the wedding, but at last it is put an end to by some disreputable conduct on the part of the bridegroom.

"Good," said Laura; "my May-Bug Fritz, before you marry the frivolous fly Juliet, other birds shall have their say about it."

She folded up the song, and added to it a little note: "You guess wrongly. The person who sends this to you never was Juliet." As she closed the letter she said to herself, with more composure: "If he does not now perceive that he was mistaken, one cannot think much of his judgment."

The Doctor was sitting a little stupefied over his books, when his eye fell upon the above letter. He cast a look upon the Marriage of the May-Bug; he had never yet come across an old copy of it, and in rapidly glancing over it he saw that many verses were quite different from our current text. Then he took the note, and endeavored to interpret the oracle. Now it was clear that the actress was the sender, for who else could know that he had accosted her as Juliet, and that they had conversed long about this *rôle*. But what could the words mean, "You guess wrongly?" But even on this point his eyes were blinded; he had maintained that the representation of passion could only be to a certain extent attained by an actor, if he had never in his life experienced a similar feeling. This the actress denied, and they had endeavored to come to an agreement about it; her words, therefore, clearly meant that she had impersonated Juliet without ever having previously felt a great passion. this was a confession that showed great confidence—nay, perhaps still more. The Doctor sat long looking at the note; but he now felt pretty sure who his correspondent was, and the discovery did not give him pleasure. For when he had reasoned the matter out upon rational grounds, it had always been Laura's eyes that beamed upon him from the paper, though undoubtedly quite another look from that which she had favored him with yesterday. He laid the May-Bug Marriage with the other songs, and again asked himself whether he ought to continue the correspondence. At last he sealed in answer one of the worthless trifles of his portfolio, and did not write anything in addition.

Some days after, when the Professor and Ilse were walking through the streets, they passed by the dwelling of the actress; both saw their friend standing at the window of the heroine, and he nodded to them from within.

"How has he made this acquaintance?" asked the Professor; "is not the young lady considered very fast?"

"I fear so," answered Ilse, troubled.

(To be continued.)

BOOK REVIEWS.

WEBSTER'S DICTIONARY.

The excellent qualities of Webster's Dictionary are known. It is an indispensable piece of furniture in every office where literary work of any description is to be done. On glancing at the most recent edition before us, we find that it is worthy of all its renowned predecessors.

The very excellency of such a book, as this really is, has induced the public to rely on its definitions and explanations more than can justly be expected from a mere compendiary work. Webster is generally resorted to by a large class of people for information upon scientific, technical, and philosophical terms, and this very confidence of the public (a consequence indeed of the excellency of the book) should impose upon the editors the difficult duty of presenting the most reliable definitions of words. So far as we can judge, this is done in the terminologies of the natural sciences, in mechanics, and other branches, but it is not sufficiently done with regard to philosophical terms. The explanations of prosody also lack precision. Other dictionaries, it is true, have been even more careless in this respect, and it cannot be doubted but that our dictionaries are to be blamed for much confusion that prevails in philosophical subjects.

We have taken occasion in an editorial on page 728 of THE OPEN COURT, to call attention to some of Webster's mistakes with reference to the word *noumenon*. Webster defines it as the "*thing in itself*, which is distinguished from the *phenomenon*." But it is the thing as a concept or idea produced by thinking, which is distinguished from the thing as a phenomenon represented in the sensory perception. Moreover, the verb from which it is derived, νοεῖν, is wrongly translated "to perceive"; it means "to think."

The popular misconception of a word such as 'noumenon' is, being perpetuated and sustained by Webster's authority, has become a stumbling block for many minds, and even for great English-speaking thinkers, to a proper understanding of Kant. If this fundamental term is misconceived, it is impossible to get at a clear conception of the Kantian philosophy.

There are a few other definitions deficient in one or another way, to which if time and space permitted, we would also like to call the editors' attention. The word *homaloid*, (from ὁμαλός, even) meaning 'flat,' with reference to space,—in which as Riemann expresses it, the curvature is equal to zero—is not yet contained either in the dictionary or its supplement. P. C.

NOTES.

Book Chat, published monthly at Brentano's New York, contains much food for bibliophiles.

The *Popular Science Monthly* of September contains a sketch and portrait of the great mathematician Carl Friedrich Gauss.

Amélie Rives has ventured on an historical drama, "Herod and Mariamne," published in the September number of *Lippincott's*.

The two first numbers of *Life Lore* are full of instruction. It is a monthly magazine of Natural History, particularly adapted to young readers.

The *Revue de Belgique* contains in its latest numbers (June, July, and August), an interesting essay by Emile Coemans, "*La femme dans l' ancienne Egypte.*"

The *Century*, for September, contains an essay by T. T. Munger, commending the study of the Bible in our universities from a purely scientific standpoint.

Mr. Charles G. Leland tells his little readers in *St. Nicholas* for September, what to do with old corks. It is wonderful how an inventive mind can make use of this almost valueless material which is mostly thrown away.

The September *Wide Awake* is as interesting as ever. Among other things it contains "A Little Lombard Hero," a touching Italian story, by Edmond de Amicis, translated by Miss Marcia Thouay, the little daughter of the American consul at Turin.

We call attention to the Editorial of this number which, it is hoped, will do away with many almost general misapprehensions. Criticisms of the essay will be welcome; if weak points in the argument can be stated, the editor will gladly acknowledge and correct his mistakes. Objections and questions will be answered so far as space and time allow.

We are in receipt of a pamphlet by Prof. George von Gizycki, "Kant and Schopenhauer," containing two essays and considering the ethical views of both philosophers. Having critically examined Kant's faults, especially the scholasticism of his terminology, the lack of lucidity (it seems that he never strove for philosophical popularity), the slovenliness of style (his greatest works are too quickly written), Prof. Gizycki concludes: "In spite of all, there is no doubt that Kant must be revered as one of the greatest ethical teachers of all ages and certainly the greatest German moral philosopher. His doctrines of Duty, of Good Will, of the Categoric Imperative, and of Moral Autonomy contain elements of imperishable worth." Prof. Gizycki's book is a valuable contribution to ethical philosophy.

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